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"Homing" Feature Being Added To Airway Communications Service

More and more planes are being equipped with direction-finding or "homing" radio sets so CAA's Communications Division is installing more and more "homing" type radio stations in the United States. Within the next few months 71 stations will be equipped and commissioned to transmit these "homing" signals.

Conventional radio range stations send out signals in four definite directions. Direction-finding transmitters differ from range stations in that they emit signals in all directions. By tuning to the frequency of a "homing" station and heading in the direction of the signal, a pilot can fly to ("home on") the station and accurately determine his location. These stations are located near intermediate fields, which thus can be readily located in emergencies.

While the 71 stations included in the present program will be limited to 50 watts or less, higher powered equipment will be installed as the demands for service increase. These "homing" signals are modulated at 1020 cycles per second.

In addition to installing "homing" transmitters, CAA is adding voice facilities at certain locations heretofore equipped with teletype only. Following is a list of stations on which planes will soon be able to "home." These stations will carry on voice transmission as well as continue to send teletype dispatches. The identifying signal which each will emit is included in this list.

Location	Signal	Frequency
Anniston, Ala	KJ	206
Anthony, Kans	AY	382
Ashley, N. Dak	AI	206
Brunswick, Ga	BS	230
Cadillac, Mich	KK	269
Chadron, Nebr	HC	206
Cherry Fork, Ohio	UY	209
Coffeyville, Kans	KV	382
Dodge City, Kans	OD	236
Danville, Va	VE	344
Evergreen, Ala	EN	382
Findlay, Ohio	JF	209
Flint, Mich	FN	335
Gladwin, Mich	GU	257
Glens Falls, N. Y	GB	209
Jackson, Mich	JN	257
Lafayette, La	UG	227
Lamoni, Iowa	FR	236
Lane, S. C	LX	359
Lebanon, N. H	LP	206
Marshall, Mo	MH	281

(*See "Homing," page 162*)

Pilot Medical Data Should Be Collected Claims Dr. Stovall

A central facility to make practical application of a mass of theoretical knowledge in the certification of pilots for civil aviation was recommended by Dr. W. R. Stovall, medical director of the Civil Aeronautics Administration, in an address before the annual meeting of the Aero Medical Association at Cincinnati, October 26.

"Because we lack such a facility, much valuable information gathered by the military and by private organizations has been lost to civil aviation," he declared.

"We are depending today, as we did in 1926, upon the judgment of ourselves and the CAA's medical examiners over the country and upon general medical knowledge in determining whether a pilot with certain physical deficiencies should be allowed to fly," Dr. Stovall said. "The flying public, the operator and the pilot are demanding a more scientific application of this general knowledge.

"Applicants who are normal give us no great concern. Those whose physical condition is marginal or below the standards comprise our problems. The burden of proof rests on such individuals to show that they can fly safely.

"If they can show that they have compensated for structural physical deficiency, we are justified in granting waivers. Even our denial of waivers, however, does not leave the applicants without recourse. They may still come back and demonstrate by means of flight tests that they have compensated

(*See "Medical Data," page 162*)

Great Circle Route Only 125 Hours Long Says C. I. Stanton

The distance around the earth as measured by commercial air routes has shrunk to a 125-hour circumference, CAA Administrator C. I. Stanton told a network radio audience in a recent address. "The commercial airlines are now flying 150 million miles a year and carrying 5 million passengers, but as yet we've barely scratched the surface of possible air traffic," he said.

Declaring that America must become a nation on wings as it has been a nation on wheels, Stanton gaged the potential pilot market at almost 2 million and estimated a post-war need of a total of 6,000 airports.

Previewing the innovations we may expect in small airplane design, he pictured an improved conventional type with a capacity of two to eight passengers, speeds of 90 to 200 miles per hour, and costs ranging from $1,000 to $20,000. The "arm-chair" plane, which will not spin or stall and will be simpler to take-off, fly and land because of tricycle landing gears and two flying controls, he described as the type that will appeal to family folks. The third type, the helicopters and roadable airplanes or flying autos with folding wings, were termed the "dream children" of the aircraft designers.

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Pilot Written Exam Given to 22,513 H. S. Students

During May and June, 22,513 high-school students in preflight aeronautics courses took the private pilot written examination, according to the examination unit of CAA's General Inspection Division. These students were from 1,676 different high schools throughout 47 different states, the District of Columbia, Alaska, and the Canal Zone.

The procedure of requiring applicants to take the examination from a CAA inspector on a scheduled date at an airport was revised for these students to permit examinations at local high schools. Students were certified by their principals as having completed approximately 1 year of study in the preflight aeronautics course.

In certain cases local CAA inspectors gave the examinations in the high schools, the time and facilities being arranged by the high-school authorities. In most instances, however, it was necessary to authorize some faculty member of the high school as a CAA examiner.

May Retake Exam

Students passing one or more sections of the private pilot examination were issued certificates of aeronautical knowledge, indicating the grades attained. The privilege of reexamination within the year on the parts failed is extended to holders of this certificate. A student who passes all four sections of the examination may obtain a private pilot certificate at any time within 12 months from the date of the original examination, provided he passes a flight test and meets other requirements of the Civil Air Regulations.

Must Apply

The CAA plans to continue giving examinations at the request of high-school principals. Programs will be arranged three times a year—in the spring (from the middle of April to the middle of June); in the fall (middle of September through October); and midyear (January through middle of February). High schools with students desiring to take the examination should submit Form ACA 1159, *Request for the Private Pilot Written Examination by Students in High School Preflight Aeronautics Courses.* These forms may be secured from CAA district offices, state departments of education, or by writing directly to the Civil Aeronautics Administration, Washington, D. C.

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Airline Denied Delay In Mail Rate Reduction

Chicago and Southern's motion to postpone date for reducing its mail pay rate to 0.3 mill per pound mile until March 1944 has been denied by the Civil Aeronautics Board.

The present rate of the carrier over its system yields about 30 cents per airplane mile. But the proposed rate is admitted by the airline to be sufficient to meet all of the reasonable operating expenses, depreciation, and taxes, and to enable it to realize a reasonable return on its investment.

Chicago and Southern contended that its present rate should be continued until it has accumulated net earnings equivalent to a 10 percent annual return on its average investment from the beginning of its operations in 1933 and sufficient reserves to equalize its earnings with those of other air carriers with whom it is in competition and who accumulated large reserves as a result of excessive mail rates collected while the rate proceedings were pending.

Correction

The October 15, 1943, issue of the Journal announced the issuance of "Flight Engineering Report No. 34." The announcement was in error in that the correct title of the report on means of preventing powerplant fires is "Aircraft Engineering Report No. 34", which was prepared by the Aircraft Engineering Division of the CAA's Safety Regulation Service.

Board Examiners Advise Moline Stop for Braniff

Inclusion of Moline, Ill., on the Braniff Airways route from Chicago through Kansas City to Dallas, Tex., is recommended in an examiners' report to the Board.

The stop would provide industrial Moline with a direct route to Kansas City and southwestern points with which it carries on an amount of business, and would give the city and surrounding business area more rapid and less costly service than is now available.

According to the report, the addition of Moline to Braniff's route would outweigh in public advantage the additional operating expense. And since the stop would require few extra facilities and only a small increase in route mileage and travel time on Braniff's schedules, it is recommended that the applicant be authorized to begin service without delay.

Structural Failure Cited in WAL Report

Failure of the left, or possibly both wing tips, and of horizontal tail surfaces during a severe pull-up was given by the Civil Aeronautics Board as the probable cause of the crash December 15, 1942, of Western Airlines Flight No. 1. The accident occurred near Fairfield, Utah while the plane was en route from Salt Lake City, Utah, to Burbank, Calif.

The Board could not determine whether the pull-up was caused by operation of the controls by the crew, or by forces beyond their control. Seventeen persons were killed, 13 passengers and 4 crew members. Two passengers escaped with serious injury.

Opinion 50 Printed

Opinion 50, "American Export Airlines, Inc.—American Export Lines—Control—American Export Airlines," Docket No. 319, is available in printed form as an advance sheet prior to its inclusion in volume 3 of the Civil Aeronautics Board Reports. A copy of this opinion may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 5 cents. When ordering, be sure to include the opinion serial number and the docket number as well as the title.

Airport Lighting

"Airport Lighting", issued as civil aeronautics bulletin No. 10, is obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 15 cents a copy. This bulletin, which consists of 39 pages and 34 illustrations, gives a comprehensive picture of the lighting systems of airports and explains the importance and function of each unit which makes up the complete lighting system.

New Devices for Air Traffic Control Predicted by Burden

Revolutionary traffic control devices to handle an expected fivefold increase in air travel by 1950 were predicted by William A. M. Burden, special aviation assistant to the Secretary of Commerce, in a recent speech before the Institute of the Aeronautical Sciences.

Electronic methods will permit airport traffic controllers to see on a screen the position of all arriving planes, Burden said.

Similarly, the pilots themselves will be able to see on their instrument panel the location of all planes within the "danger zone" near them.

A vertical separation indicator was in an advanced stage of development by the Civil Aeronautics Administration before the war, he pointed out. It would show by means of signals on an oscillograph screen the altitude of all aircraft within 1,500 feet above or below, for a radius of 10 miles.

Another device Burden visualized would warn of ships ahead at the same altitude, with a dot on the screen growing larger as they came nearer, and moving right or left as their relative position shifted.

In place of the current practice of the pilot reporting his position by radio as he passed a "fix," he would be automatically identified as he passed through a radio "screen," comparable to the automatic traffic counters used on highways.

Burden foresaw stratification of the airspace, with short-haul operations conducted at lower levels, and most long-distance flights made above 12,000 feet.

He predicted that new radio ranges would be located to provide direct routes between large terminals, bypassing points of congestion. Terminals en route would connect to the through airway with separate facilities.

Radio ranges, Burden said, would give the pilot a visual indication on his instrument panel of his position in relation to the "on course" line, instead of making him interpret, as at present, a fluctuating signal in his earphones.

Automatic posting of flight-progress data on electrical boards similar to those used for recording stock-market quotations was another development predicted by Burden, who noted that one such board was being tested at Washington Airport by the CAA.

No Control Found

In an opinion and order, No. 2446, the Civil Aeronautics Board ruled that the acquisition by Pan-American Airways, Inc., of 40 percent of the authorized capital stock of Aerovias de Guatemala, did not constitute "control" of the company and therefore dismissed Pan-American's application for approval of the transaction. Under section 408 of the Civil Aeronautics Act, transactions involving the acquisition of controlling interest require approval of the Board.

Plain English Weather Reports Can now be Broadcast to Pilots

Out over the 125,000 miles of CAA's teletype communications system last month went a dispatch which meant that pilots flying the airways can again receive weather reports in plain English.

Effective at midnight November 1, following a decision of the Defense Meteorological Committee, staffs of all Federal Airways radio stations were advised that on request of pilots they can give out weather reports "in the clear" with but one condition—that reports for no more than two locations may be transmitted per contact.

Under censorship regulations only in cases of emergency has it been permissible to transmit weather in English and even emergency service has been limited to two locations. Codes which were changed regularly have been used as a general practice.

Special Notice

Following is the special notice to airmen which announced the end, insofar as it affects the average pilot, of "cryptographic" weather service:

SPECIAL NOTAM.

1. JOINT UNITED STATES CHIEFS OF STAFF CIVIL AERONAUTICS ADMINISTRATION AND WEATHER BUREAU HAVE AGREED THAT EFFECTIVE 2359Z 1 NOVEMBER 1943 ALL CURRENT WEATHER INFORMATION ORIGINATING IN OR PERTAINING TO CONTINENTAL UNITED STATES SHALL BE CONTROLLED AS HEREINAFTER PRESCRIBED.

A. RADIO TRANSMISSION OF WEATHER MAPS AND ANALYSES IN WHOLE OR IN PART LESS THAN SEVEN DAYS OLD SHALL BE IN CIPHER.
B. COLLECTIVE RADIO TRANSMISSIONS OF WEATHER REPORTS LESS THAN SEVEN DAYS OLD SHALL BE MAINTAINED IN CIPHER. WITHIN THE MEANING OF THIS SUBPARAGRAPH COLLECTIVE WEATHER REPORTS ARE DEFINED AS MORE THAN TWO SYNOPTIC OBSERVATIONS.

C. TRANSMISSIONS FROM COMMERCIAL RADIO STATIONS SHALL CONTAIN NO DIRECT MENTION OF CEILING CONDITIONS VISIBILITIES WIND DIRECTIONS OR BAROMETRIC PRESSURES.

D. CODES AND CIPHERS REQUIRED FOR RESUMPTION OF STRICT WEATHER SECURITY MEASURES ON SHORT NOTICE SHALL BE KEPT ON HAND FOR USE IN EVENT THE MILITARY SITUATION WARRANTS THEIR USE.

2. UNDER THIS POLICY THE FOLLOWING SPECIFIC CHANGES IN PROCEDURES ARE AUTHORIZED.

A. RADIO TRANSMISSION OF WEATHER INFORMATION INCLUDING FORECASTS BUT NOT INCLUDING WEATHER MAPS AND ANALYSES ORIGINATING IN OR PERTAINING TO THE CONTINENTAL UNITED STATES MAY BE MADE IN CLEAR BETWEEN AIRCRAFT AND GROUND AIRCRAFT AND AIRCRAFT OR POINT TO POINT WHENEVER REQUESTED OR INITIATED BY A PILOT GROUND OPERATOR DISPATCHER OR CONTROLLER PROVIDED NOT MORE THAN TWO STATION REPORTS ARE INCLUDED IN ANY ONE TRANSMISSION.

B. ALL CURRENT WEATHER INFORMATION ORIGINATING IN OR PERTAINING TO THE CONTINENTAL UNITED STATES WILL CEASE TO HAVE A SECURITY CLASSIFICATION EXCEPT UNDER CONDITIONS SPECIFIED IN PARAGRAPHS 1A AND 1B ABOVE AND WILL BE ACCESSIBLE TO THE PUBLIC AT WEATHER BUREAU AIRPORT OFFICES AND CAA COMMUNICATION STATIONS FOR LEGITIMATE USES COMPATIBLE WITH NATIONAL INTERESTS.

C. IDENTIFICATION WILL NO LONGER BE REQUIRED FOR PERSONS REQUESTING CONTINENTAL UNITED STATES WEATHER INFORMATION IN PERSON OR BY TELEPHONE OR TELEGRAPH.

D. USE OF ALACO-AIRMETCO IN THE UNITED STATES WILL BE DISCONTINUED BUT SUPPLIES OF FORMS AND INSTRUCTIONS WILL BE RETAINED AT ALL STATIONS AND OFFICES.

3. TERMINAL FORECASTS FLIGHT ADVISORIES FLIGHT PLANS AND CHANGES THEREIN LANDING INSTRUCTIONS AND ANY OTHER WEATHER INFORMATION MAY BE TRANSMITTED UNSCHEDULED IN CLEAR IN ACCORDANCE WITH PARAGRAPH 2A AND WHEN REQUIRED IN CONNECTION WITH FLIGHT ADVISORY WEATHER SERVICE AND FLIGHT COMMUNICATION WEATHER SERVICE.

4. DETAILED INSTRUCTIONS FOR ALL WEATHER BUREAU OFFICES AND CIVIL AERONAUTICS ADMINISTRATION STATIONS IN HANDLING WEATHER INFORMATION ARE CONTAINED IN WEATHER BUREAU CIRCULAR LETTER NUM 101–43 DATED OCTOBER 30 1943 AND FORWARDED BY MAIL TODAY TO WEATHER BUREAU REGIONAL OFFICES FOR DISTRIBUTION.

BEGINNING 2359Z 1 NOVEMBER THE INSTRUCTIONS IN THIS NOTAM WILL APPLY. ADCON 301500E (OCT. 30, 3 P. M. EWT), STANTON.

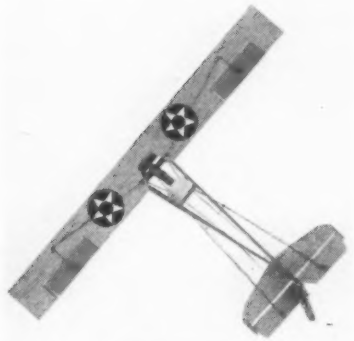
Airline Manual on Sale

As a guide for carriers in the maintaining of accounts, a manual entitled "Uniform System of Accounts for Domestic Air Carriers" has been issued by the Civil Aeronautics Board. Copies of this manual are obtainable at 65 cents each from the Superintendent of Documents, Government Printing Office, Washington, D. C. Regulation No. 288, digested on page 162, covers the issuance of a revised "Schedule Governing Preservation of Accounts, Records, and Memoranda of Air Carriers".

Aerial Ambulance-Hearse

Aerial ambulance and hearse service is asked in a recent application to the Board by Shannon's, Fort Worth, Tex. The applicant specifies nonscheduled air transportation of injured and ill persons and bodies of deceased persons, and their attendants, between points within a radius of 600 miles of Fort Worth. Proposed service also includes transportation to or from any point in the United States to points within this radius.

Here's a Trainer You Can Build Yourself



Balsa wood model constructed to prove the practicability of the design

A "flight" trainer, which can be built by preflight students for practically nothing, has been designed by the Civil Aeronautics Journal staff. Instructions for building the trainer are given on the [illegible] pages.

Following the recent issuance by the CAA of a fluently written book on flight maneuvers, the Journal staff saw a potential need for a preflight trainer in which to practice the spins, eights, stalls, etc., described in the book. Father to the trainer idea is a cartoon-illustrated manual entitled "Fundamentals of Elementary Flight Maneuvers",[1] which has been prepared for CAA's flying schools. In the 6 months this book has been available to the public through the Government Printing Office, several thousand copies have been purchased by individuals interested in preflight aeronautics.

Written so that everyone can understand it, the manual is filled with pictures showing how each maneuver should be executed. Its language is the language of CAA flying instructors, for the CAA requires its instructors to follow the book in giving lessons.

Pilots are tested in such things as stalls, spins, slips, and pylon eights. But these maneuvers seem more difficult than they are, for about all that's necessary in order to do them expertly is a sound knowledge of how to manipulate the controls.

The trainer shown in the drawings meets the need for a practice trainer and can be built at very small cost, of materials available in most any neighborhood. While commercial preflight trainers can be purchased ready made, the home-made trainer is economical and offers an excellent means of learning the operating principles of aircraft control systems. It also is a natural transition from model building to working with standard-size planes.

Ingenuity and inventiveness can go into the home-made trainer and its construction can be made a joint project for manual-training and aeronautics courses. The Journal drawings show only fundamental features, leaving refinements or modifications to the desires of the builders.

To produce degrees of realism, an instrument panel can be installed, wheels added to gain mobility, or the simple, movable seat shown in the drawings can be further developed. For more refinement the fuselage can be covered and paint added.

The following paragraphs contain hints on building the trainer. These hints are offered merely as starters and dimensions do not have to be followed.

Building the Trainer

FUSELAGE

Tenpenny nails, or any nails which will fasten the size lumber used are satisfactory. In this connection it is a good thing to go over the drawings, checking the points at which boards will have to be fastened, so as to estimate the number of nails needed.

The fuselage length is 10 feet 7½ inches in the accompanying drawings. In a model of this size 2 by 4 lumber is recommended for longerons and their supporting struts. If no full-length lumber can be obtained then shorter strips can be joined together to form longerons.

While it has been suggested that the fuselage be covered, it may be good to wait until all who are working with the trainer have had a chance to fully observe the functioning of the controls. When everyone has had a sufficient "looksee" paper or cloth covering can be glued on, and some paint added.

WING

The wing can be made of few or many pieces, depending on the sizes of lumber available. The only structural requirements which have to be met on the wing are that it be strong enough to support the movable ailerons and their attachments, and, of course, that it have a minimum of sag at the tips.

In the drawings the wing is shown as a single piece of wood 8 feet in length, with portions sawed out where it fits over the fuselage and where the ailerons are installed. Most likely two or more lengths of wood will have to be fitted together to make up the 8-foot width. It will be wise to add some supporting struts to prevent sag.

Ailerons are hinged to the wing by means of pairs of screw eyes, so arranged that a bent nail can be threaded through each pair of eyes to act as a hinge pin. Screw eyes are also used as fittings through which to run the control cable.

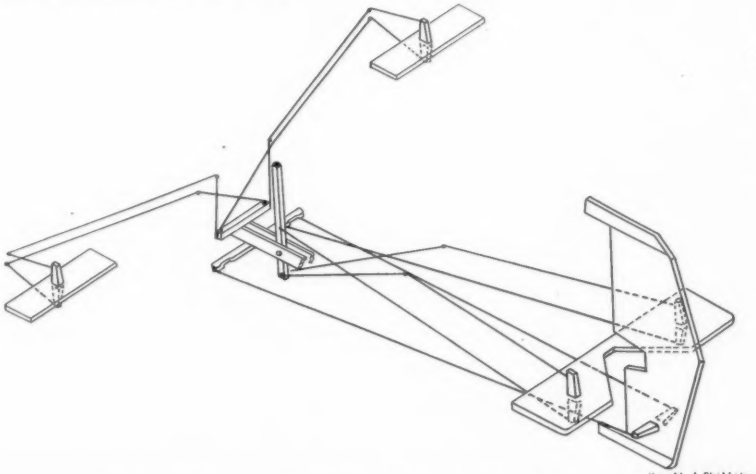
CONTROLS

Any good strong wrapping cord can be used as control cable. As with the nail procurement problem so with the control cable cord, it is a good thing to refer to the drawings and estimate the length of cord needed. It is also advisable to make a count of the number of screw eyes needed. As can be seen from the full view drawing, the control stick and rudder bar are made from single pieces of wood, sawed or whittled to the correct shape.

TAIL ASSEMBLY

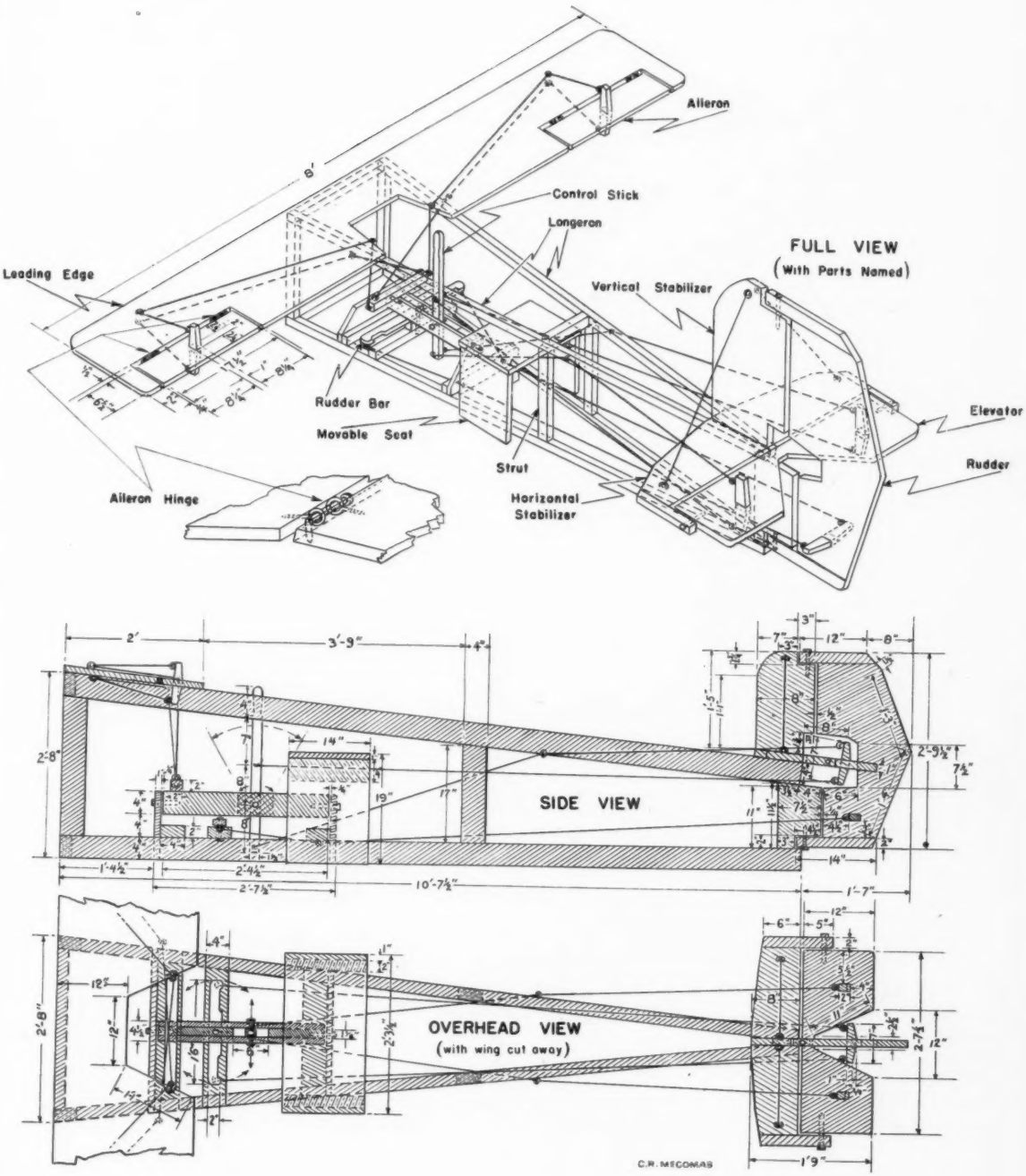
The tail assembly consists of the horizontal and vertical stabilizers, the elevators and the rudder. Like the wing, these "control surfaces" can be made from single pieces or from several pieces of wood. Also like the wing, their only structural requirements are that they be heavy enough to take screws without cracking and that they be firm enough to be free from sag.

Construction hints supplied here have purposely been kept brief. The most fun comes in working out the little problems. However, the Journal will provide details of any feature of the design upon request.



The above drawing shows the hook-up of the control system

[1] For sale at 20 cents a copy by Superintendent of Documents, Government Printing Office, Washington, D. C.



Builders' Diagram for Home-made Trainer

Plane Needs of Short-Haul Market Analyzed at Feeder Pick-up Hearing

Fulfillment of the first requirement for small city air service—suitable aircraft—appeared closer to achievement, after aircraft makers reported on the development of new types of craft and compared design requirements, costs, and operation data on present planes at the Civil Aeronautics Board's local-feeder, pick-up hearing.

Two versions of the helicopter, envisioned as the plane for use in short-hauls and small landing space, were described by spokesmen of aircraft manufacturing companies who are developing this type of plane.

Helicopter Progress

The Platt-LePage Aircraft Co., at present experimenting with helicopters for the Army and Navy, believes that it has a helicopter model far enough along in development so that it can produce commercial models when restrictions are lifted. W. L. LePage, president of the company, showed a drawing of the LePage version, a 2-rotor plane capable of carrying 12 to 14 passengers with top speed of 140 miles and a cruising speed of 100 to 110 miles.

In testifying for the Greyhound Corporation, which proposes to use air-bus service, Engineers Igor I. Sikorsky of United Aircraft Corp., and William B. Stout of Consolidated Vultee Aircraft Corp., were confident about production of a workable helicopter that would be available within the next 2½ years. Estimates were based on experience with the XR–4 which the Sikorsky Division of the United Aircraft is now delivering to the Army. A model was displayed of the commercial helicopter now under development. It is a single rotor, 2-engined craft designed to carry 14 passengers and a crew of two. In addition it would be able to carry a 400-pound cargo, and land in an area 200 by 400 feet.

Data on Present Types

In presenting data on use of the conventional type of airplane, the Douglas Aircraft Co., suggested to the Board that economies be allowed in both design and operation to make feeder service pay. A sturdy plane, low in initial cost, designed for one-pilot operation and easy to maintain, was recommended. Installation of pick-up equipment for mail and cargo, flag stops to eliminate unnecessary landing, and improvements in airport design and handling facilities to reduce landing, refueling, and take-off costs were other economies suggested.

The Beech Aircraft Corporation gave the Board performance data and operation costs on its 18–S model and other models it considers suitable for feeder line operations.

A report was made on the new Aero-Hydro pick-up device for picking up gliders (maximum weight of 18,000 pounds) on the ground by means of a tug-ship in flight. The apparatus weighs between 1,000 to 1,400 pounds and takes up a space of a little over a cubic yard.

How the feeder-pick-up routes should be organized and who should serve small cities were matters which brought forth differing viewpoints among the transcontinental carriers, regional carriers, new applicants, and surface carriers.

Case for Existing Carriers

The existing carriers generally urged that service to small cities be provided by extending present routes and increasing stops on the routes. Speaking for TWA, Lee Talman, executive vice president, voiced the popular contention that local services along a trunk line are essentially and economically a part of that trunk-line system. He maintained that short-haul service frequently proved to be unprofitable in itself, and that independent local operators admitted to the field would eventually have to become through operators to make the service pay, and would then become competitors with the established airline. He believed, however, that when two existing carriers might be competing for routes circling a metropolitan area, the business of serving that area should be given an independent operator.

Case for Applicants

Presenting argument for allowing new companies to enter the short-haul and pick-up field, John H. Frederick, professor of transportation and industry at the University of Texas, spoke for the Southwest Feeder Airlines. He pointed out the tendency of present air carriers to skip small cities where traffic is comparatively light and to concentrate on stops at places where they are assured a larger load. He stated that they are also inclined to avoid short hauls in favor of through passengers.

He stressed the point that short-haul service will undoubtedly require different operating techniques than through service and contended that the two operations require entirely different types of organization and equipment.

The Parks Air College of St. Louis, typical of the applicants now operating pilot training schools, pointed out that it already has the nucleus in trained pilots, planes, and landing fields for an organization to operate local routes.

All American Aviation, a company with 4½ years of experience in pick-up service to small towns in six states, claimed that the use of air mail service on its routes is steadily increasing, and that its air mail pick-up operations have not only become self-sustaining, but that they are now a source of profit to the Government. All American has experimented with carrying passengers on pick-up flights and believes that the combination is feasible.

A twin-engined, high-wing monoplane equipped for night and instrument flying, with cruising speed of 160 to 180 miles an hour, complete control and maneuverability at 80 miles and a cruising radius of 600 to 800 miles are the requirements outlined by the pick-up company in its proposed expanded program. Suggested capacity called for room for 10 to 12 passengers with an additional pay load of more than 1,000 pounds, 30 square feet of floor space for installation of pick-up unit, and at least 120 cubic feet of cargo space.

Against Subsidies

The Greyhound Corporation, an applicant, declared that it would not need assistance from the Government in form of a mail subsidy. Generally, the various companies at the hearing were opposed to subsidies as a continued policy after giving a new service a year or so to become self-sustaining.

Witnesses for around 45 companies or persons testified at the hearing. About 12 of the operating air carriers, 15 prospective air carriers, 4 manufacturers, 3 state aeronautical organizations, the Aeronautical Chamber of Commerce and the Association of American Railroads were represented.

Western Control of Inland Air Lines Before the Board

Western Airlines has asked approval by the Civil Aeronautics Board for purchase of over 83 percent of outstanding stock of Inland Air Lines, Inc., which would give it control of Inland.

Western also desires to purchase the remaining shares from other stockholders willing to sell, and asks for approval of a merger with the company, or purchase of all assets which would transfer Inland's certificates of operation to Western.

According to the application, the service of the two lines is not competitive, but complementary. The two lines connect at only one place, Great Falls, Mont., where they have a joint ticket office and Western's route north from that city to Lethbridge, Canada, serves as a feeder line to Inland's route 28.

Western operates from Great Falls to Los Angeles through Idaho, Utah, and Nevada. Inland operates from Cheyenne, Wyo., to Great Falls, and also has a mail and express route from Cheyenne through Scottsbluff, Nebr., and across South Dakota.

United Air Gains Control of LAMSA

The purchase of 3,750 of the 5,000 shares of capital stock of Lineas Aereas Mineras, S. A. of Mexico by the United Air Lines Transport Corporation of Chicago has been approved by the Civil Aeronautics Board. LAMSA as the airline is commonly known, operates through important industrial and agricultural areas within Mexico and serves 12 cities, including Mexico City, and 3 important State capitals.

The approval of United's control of LAMSA is for air service within Mexico only and will cease to be effective if LAMSA extends its operations beyond the borders of Mexico. The Board specified also that United submit semiannual financial and operations reports of LAMSA.

The Board pointed out that at least in the immediate future, none of United's flying equipment will be transferred to LAMSA, and the only personnel who might be made available would be supervisory officials, who could be recalled to the United States on short notice.

CAB and State Department Clarify Interest in Foreign Air Transport

Clarifying their respective interests in the development of international air transportation services, the Civil Aeronautics Board and the Department of State on October 15 issued a joint statement explaining that the policy of both agencies is one of closest collaboration.

According to the statement, portions of which follow, the Department of State has a primary interest in the subject from the standpoint of foreign policy and international relations, including the broad economic effects of aviation in foreign countries.

The Civil Aeronautics Board is charged with the responsibility, within the framework and guided by the policies of applicable legislation, of developing policy with respect to the organization and functioning of civil air transportation. The Board is required by law to study all of the economic and other factors which go to make up a finding of convenience and necessity for specific routes. In addition, the Board must investigate the applicant or applicants to make a determination of fitness, willingness, and ability. Findings of fact made pursuant to statutory authority in the technical fields of aviation operation, transportation economics and organization, and determination of route are matters for decision by the Board, though the Department of State may bring to the attention of the Board considerations and facts relating to foreign policy.

With reference to the development of new international air services, the statement specified the procedure being followed.

Applications are filed with the Board. Thereafter the carrier need only prepare for the hearing before the Board, at which it will endeavor to prove that public convenience and necessity require the granting of its application.

The Board forwards copies of such applications to the Department of State for information and such comment as it may wish to make to the Board. Questions of landing rights and other matters affecting foreign policy will be dealt with through close consultation between the Department of State and the Civil Aeronautics Board. The Department of State, as provided in Section 802 of the Civil Aeronautics Act of 1938, as amended, will conduct with foreign governments such negotiations for new or additional rights as may be determined to be desirable as a result of collaboration between the Department of State and the Civil Aeronautics Board.

Foreign air carriers who wish to apply to the Board for permits to operate into United States territory, should request their governments to forward such applications through diplomatic channels. When these applications are received in the Department of State they will be immediately transmitted to the Civil Aeronautics Board. Thereafter, pending a decision on the application, technical or other details are handled directly with the Board, and the applicant prosecutes his application directly before the Board.

Airports of Entry

On October 30 there were 39 airports and seaplane bases designated as "airports of entry" through which aircraft arriving in the United States may clear customs and immigration.

Airports of entry are designated by the Treasury Department after consultation with other interested Federal agencies, among these the Civil Aeronautics Administration and Board, and after due consideration as to the necessity for such designation.

Without Time Limit

Location	Name	Location	Name
Akron Ohio	Municipal Airport.	Miami, Fla	Pan-American Seaplane Base.
Albany, N. Y	Municipal Field.	Nogales, Ariz	Nogales Municipal Airport Base.
Brownsville, Tex	Municipal Airport.	Ogdensburg, N. Y	Ogdensburg Harbor Seaplane Base.
Buffalo, N. Y	Do.	Pembina, N. Dak	CAA Intermediate Field.
Burlington, Vt	Burlington Municipal Airport.	Portal, N. Dak	Portal Airport.
Caribou, Maine	Caribou Municipal Airport.	Port Townsend, Wash	Port Townsend Army Air Field.
Cleveland, Ohio	Cleveland Municipal Airport.	Put in Bay, Ohio	Put in Bay Airport.
Detroit, Mich	Detroit Municipal Airport	Rochester, N. Y	Rochester Municipal Airport.
Do	Ford Airport.	Rouses Point, N. Y	Rouses Point Seaplane Base.
Do	Wayne County Airport, army.	San Diego, Calif	Lindbergh Field.
Douglas, Ariz	Douglas International Airport.	Seattle, Wash	Boeing Municipal Air Field.
Duluth, Minn	Duluth Municipal Airport	Do	Lake Union.
Do	Duluth Boat Club Seaplane Base.	Swanton, Vt	Missisquoi Airport.
Eagle Pass, Tex	Eagle Pass Airport.	West Palm Beach, Fla	Shonnard Seaplane Base (Currie Common Park).
El Paso, Tex	Municipal Airport.		
Key West, Fla	Meacham Field, army.		
Miami, Fla	Pan-American Field (or 36th Street).		

Temporary (1 Year)

Location	Location	Date Designated	Period
Havre, Mont	Havre Municipal Airport	June 2, 1943	1 year.
Miami, Fla	Chalks Flying Seaplane Base	Sept. 17, 1943	Do.
Niagara Falls, N. Y	Niagara Falls Municipal Airport	July 2, 1943	Do.
Ogdensburg, N. Y	Ogdensburg Municipal Airport	Dec. 10, 1942	Do.
Presque Isle, Maine	Presque Isle Air Base	Feb. 20, 1943	Do.
Sandusky, Ohio	John G. Hinde Airport	June 1, 1943	Do.
Spokane, Wash	Spokane Municipal Airport (Felts Field)	Oct. 1, 1943	Do.
Watertown, N. Y	Watertown Municipal Airport	June 2, 1943	Do.

Routes to Hawaii, Egypt

Northwest Airlines has applied for a route from Seattle to Honolulu, Hawaii, and return service. Since Hawaii is a territory of the United States, the applicant maintained that the proposed route falls within the province of domestic service rather than foreign service. Honolulu is 2,681 miles from Seattle.

Transcontinental and Western Air has amended its foreign route application to include service from Washington, D. C., New York, Boston, Chicago and Detroit to Cairo, Egypt. TWA has already applied for service from these U. S. terminals to London and Paris.

Failure to Check Weather Is a Fatal Error

Lowell N. Clyne and his passenger, Fred Sloan, were fatally injured in an accident which occurred near Kinsey, Mo., on May 9, 1943. Clyne held a private pilot certificate with a class 2S land rating and had flown about 195 solo hours, of which approximately 3 were in the type of aircraft involved. In the 3 months preceding the accident he had flown only 6 hours. Sloan was not certificated as an airman. The aircraft, a Culver LCA, was demolished.

Clyne received proper clearance and, accompanied by Sloan, took off from Mount Vernon, Ill., on a cross-country flight to Springfield, Mo. He neither requested nor received weather information prior to his departure. Three witnesses, residing about 4¾ miles northwest of Kinsey, observed the plane flying at an altitude of about 25 feet over houses and tree tops. These witnesses stated that almost immediately thereafter the plane dived to the ground, crashing on a wooded hillside nearby. According to unofficial reports weather conditions at the time were: Ceiling 200 feet, visibility ¾ mile, light rain and fog, wind NW. 7 mph.

Examination of the wreckage revealed no indication of failure of any part of the aircraft prior to impact.

Had the pilot requested weather information for his intended route, which was over rugged, mountainous terrain, he would have learned that the weather would not permit contact flight. St. Louis, Mo., north of his course, was overcast, ceiling 200 feet, visibility ¾ mile, foggy; while Springfield, his destination, 228 miles distant, was overcast, ceiling 500 feet, visibility 5 miles, rain and fog, wind SE. 27 mph.

The primary cause of this accident was Clyne's poor judgment in attempting a cross-country contact flight without first ascertaining the weather along his intended route, and in continuing the flight when he encountered weather conditions far below the minimum for contact flight.

Reckless "Technique" Has Fatal Results

Pilot E. Harvey was fatally injured and his passenger, Robert A. Smith, received serious injuries in an accident which occurred about 2 miles southwest of Canaseraga, N. Y., on April 17, 1943. Harvey was not certificated as an airman but had graduated from an advanced flying school of the Army. The aircraft, a Piper J3L–65, was demolished.

Harvey, with little or no previous experience in light aircraft, received a check flight consisting of two take-offs and landings at the Harnell Airport and was then cleared for a local pleasure flight. Accompanied by Smith, he took off and circled the field, then headed toward Canaseraga, the home of his parents. While en route, he flew low, pointing out various features of the terrain to his passenger. After circling Canaseraga at a very low altitude, he headed for his brother's farm, which was located about 2 miles southwest of town. He made two circuits of the farmhouse and while headed east toward a small field near the house entered a steep sideslip very close to the ground,

(*See "Reckless Technique," page 159*)

Flying Down Main Street, Pilot Contacts Building

Orrie S. Cleveland was fatally injured in an accident which occurred in the town of Newcastle, Wyo., on April 7, 1943. Cleveland held a private-pilot certificate with a single-engine land, 0–80 hp. rating, and had accumulated approximately 250 solo hours. The aircraft, a Piper J4E, was destroyed by impact and fire.

Cleveland received clearance and took off from the Newcastle Airport on a local pleasure flight. He flew in the vicinity and over the town of Newcastle for about 1 hour and was then observed flying low over the town and diving to within 40 or 50 feet of an assembly of persons in a churchyard. After his final flight over the assembled group, the pilot headed west, following the main street to the edge of town, where he entered a turn to the left. During this turn the left wing of the aircraft struck an electric sign on top of a flour mill, approximately 75 feet above the ground. The aircraft was thrown into an inverted position and crashed to the ground in this attitude. Fire broke out immediately after impact.

The aircraft was so demolished by impact and fire that an examination revealed little as to its condition prior to the accident. The manner in which the propeller was broken indicated that considerable power was being developed at the time of impact. The weather was clear, wind S. 25 mph., and is not considered to have been a contributing factor. Cleveland had a reputation for reckless flying, and it is apparent that his low hazardous flying was the result of his desire to entertain his friends on the ground.

It is evident that this accident was due to the pilot's disregard for the safety of himself and others in flying recklessly at a low altitude over a populated area.

"I Have Learned a Lesson" Says Pilot After Crash

Aaron Cutlip was seriously injured in an accident which occurred approximately 8 miles southwest of the municipal airport, Morgantown, W. Va., on April 20, 1943. Cutlip held a student pilot certificate [1] and stated that he had flown approximately 200 solo hours, 150 of which were in the type of aircraft involved. The aircraft, a Piper J–2, was demolished.

During the investigation a signed statement was submitted by Pilot Cutlip, as follows: "I took off from the Morgantown Municipal Airport after receiving a clearance at 11:40 a. m. I proceeded to fly over where I work to give my fellow workers a demonstration in flying. I was in the rear cockpit and was not wearing a parachute. At an altitude of 500 feet or less I executed a couple of wing-overs, then went into a right-hand spin and before I could recover I crashed in a hollow near a derrick where my friends were working. I do not remember anything until the boys were picking me up to put me on a stretcher. I was then taken to the Fairmont General Hospital. I have learned a lesson that I should not have stunted at a low altitude. The engines and controls were functioning normally at the time of the crash."

This accident is obviously the result of reckless flying on the part of an overconfident pilot.

[1] Order No., 3560, dated October 1, 1943, revoked Pilot Cutlip's certificate.

Five Hours of Dual Not Enough for Solo

Everett J. Freeman, age 17, was fatally injured in an accident which occurred about 4 miles west of Elkin Airport, Elkin, N. C., May 4, 1943. Freeman was not certificated as an airman but had received about 5 hours of dual flight instruction. The aircraft, a Piper J–2, was demolished.

Freeman, without clearance or permission from the owner of the plane to make a flight, took off from the Elkin Airport. He was in charge of the airport at the time and no one else was present. The airport manager arrived just in time to see the plane leave the ground. A few minutes later the airplane was observed in the vicinity of the home of the pilot's girl friend. Freeman remained in the vicinity about 20 minutes, diving low over the treetops and zooming. Just prior to the accident he flew low over his friend's house, then zoomed to an altitude of approximately 100 feet. At this point the plane was stalled, nosed down, and struck the ground at an angle of about 45°.

Examination of the wreckage revealed no indication of failure of any part of

(*See "Five Hours of Dual," page 159*)

PRIVATE FLYING SAFETY STATISTICS

Analysis of Accident Causes, 1941–1942

(Causes of accidents indicated in percentages)

Causes [1]	1941					1942					Grand Total 1941–1942
	Instructional	Experimental	Commercial	Pleasure	Total	Instructional	Experimental	Commercial	Pleasure	Total	
Personnel:											
Pilots:											
Error of judgment	5.08	2.70	12.59	13.10	9.11	3.11	3.22	9.40	8.43	5.23	7.46
Poor technique	56.64	15.95	26.21	37.32	45.20	48.71	15.97	26.02	30.53	41.00	43.42
Disobedience of orders or regulations	.03	0	.18	0	.04	.10	0	.13	.17	.12	.07
Carelessness or negligence	15.64	13.51	14.59	17.31	16.18	22.24	12.58	13.28	23.99	21.24	18.33
Miscellaneous	.14	0	.21	.11	.14	.33	0	0	.56	.33	.22
Total pilot errors	77.53	32.16	53.78	67.84	70.67	74.49	31.77	48.83	63.68	67.92	69.50
Other personnel	.48	0	1.50	.49	.59	.91	6.45	1.15	1.52	1.13	.82
Total personnel errors	78.01	32.16	55.28	68.33	71.26	75.40	38.22	49.98	65.20	69.05	70.32
Material:											
Powerplant:											
Fuel system	6.67	15.14	8.08	7.99	7.42	5.09	19.03	8.22	7.29	6.18	6.90
Cooling system	.04	0	0	.04	.04	.05	0	0	.14	.06	.05
Ignition system	.56	0	.64	1.19	.82	.90	3.23	1.45	1.34	1.10	.94
Lubrication system	.28	2.70	.64	.72	.52	.34	6.45	.43	1.25	.62	.56
Engine structure	2.58	4.60	4.97	2.35	2.76	1.77	3.23	6.60	1.77	2.49	2.64
Propeller and accessories	.22	0	1.08	.63	.48	.15	0	1.10	.28	.31	.41
Engine control system	.08	0	.21	.12	.11	.13	0	0	0	.08	.10
Miscellaneous	.50	2.70	1.63	.58	.67	.19	0	.52	.25	.25	.49
Undetermined	1.57	5.41	2.22	3.02	2.26	1.35	0	3.61	2.98	2.03	2.16
Total powerplant failures	12.50	30.55	19.47	16.64	15.08	9.97	31.94	21.93	15.30	13.12	14.25
Structural:											
Flight control system	.39	2.70	.58	.29	.39	.31	3.22	0	.14	.25	.33
Movable surfaces	.05	2.70	0	.05	.07	0	0	0	0	0	.04
Stabilizing surfaces	0	0	0	0	0	0	0	0	0	0	0
Wings, struts and bracings	.34	8.11	.64	.41	.46	.27	0	.65	.43	.36	.42
Undercarriage	1.91	2.70	3.94	1.35	1.91	2.19	3.23	2.19	1.26	1.99	1.94
Retractable landing gear mechanism	.08	4.60	.95	1.27	.69	.10	3.23	1.69	.56	.47	.60
Wheels, tires and brakes	.60	1.08	2.21	.67	.80	.71	2.42	3.08	1.05	1.15	.95
Pontoons and boats	0	0	0	0	0	0	0	0	0	0	0
Fuselage, engine mounts and fittings	.19	0	0	.28	.21	.31	0	.22	0	.22	.21
Tail wheel or tail skid assembly	.10	2.70	.43	.01	.12	.34	0	.26	.70	.41	.24
Miscellaneous	.05	0	.21	.07	.08	.16	0	.43	.32	.23	.14
Undetermined	.04	0	0	.05	.04	0	0	0	0	0	.03
Total structural failures	3.75	24.59	8.96	4.45	4.77	4.39	12.10	8.52	4.46	5.08	4.90
Handling qualities	.12	0	.43	.04	.12	0	1.29	0	.20	.06	.09
Instruments	0	0	0	0	0	0	0	.20	0	.03	.01
Total material failures	16.37	55.14	28.86	21.13	19.97	14.36	45.33	30.65	19.96	18.29	19.25
Miscellaneous:											
Weather	1.53	0	3.74	2.49	2.14	4.89	9.04	5.89	6.47	5.43	3.54
Darkness	.11	0	.32	.30	.21	.12	.48	.56	.16	.20	.20
Airport—water or terrain	3.01	1.89	9.28	6.53	5.09	3.69	.48	8.49	6.26	4.93	5.03
Other	.82	10.81	2.52	.88	1.12	1.23	0	3.56	1.27	1.57	1.31
Total miscellaneous causes	5.47	12.70	15.86	10.20	8.56	9.93	10.00	18.50	14.16	12.13	10.08
Undetermined and doubtful	.15	0	0	.34	.21	.31	6.45	.87	.68	.53	.35
Total percentages	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Number of accidents involved	2,068	37	465	1,742	4,312	1,968	31	461	716	3,176	7,488

[1] These statistics were prepared on the basis of N. A. C. A. definitions contained in Report No. 576 "Aircraft Accidents—Method of Analysis," 1941. The same definitions were applied when these data appeared in Volume 2, No. 12 of the Civil Aeronautics Journal.

Vital Statistics and Results of Accidents, 1941–1942

Items of consideration [1]	1941					1942					Grand Total 1941—1942
	Instructional	Experimental	Commercial	Pleasure	Total	Instructional	Experimental	Commercial	Pleasure	Total	
I. Injuries to personnel:											
Pilots:											
Certificated	2,095	35	459	1,691	4,280	2,031	32	467	716	3,246	7,526
Uncertificated	31	3	11	71	116	9	0	3	10	22	138
Fatal injury	45	2	33	110	190	51	3	29	50	133	323
Severe injury	47	0	15	80	142	44	2	16	32	94	236
Minor injury	141	4	34	141	320	171	4	50	83	308	628
Uninjured	1,893	32	388	1,431	3,744	1,774	23	375	561	2,733	6,477
Co-pilots or students:											
Fatal injury	14	0	1	4	19	20	0	1	1	22	41
Severe injury	17	0	0	1	18	15	0	0	0	15	33
Minor injury	34	1	2	3	40	51	1	5	0	57	97
Uninjured	535	8	20	28	591	601	1	32	16	650	1,241

See footnotes at end of table.

Items of consideration [1]	1941					1942					Grand Total 1941—1942
	Instructional	Experimental	Commercial	Pleasure	Total	Instructional	Experimental	Commercial	Pleasure	Total	
Passengers:											
Fatal injury	0	0	18	92	110	3	0	13	38	54	164
Severe injury	0	0	7	68	75	1	0	12	39	52	127
Minor injury	2	0	21	103	126	1	1	10	42	54	180
Uninjured	3	4	288	866	1,161	14	1	212	346	573	1,734
Aircraft crew:											
Fatal injury	0	1	2	0	3	0	0	6	0	6	9
Severe injury	1	0	0	0	1	0	0	5	0	5	6
Minor injury	3	1	3	0	7	0	2	17	0	19	26
Uninjured	13	14	11	0	38	6	3	112	2	123	161
Ground personnel:											
Fatal injury	0	0	0	0	0	0	0	0	0	0	0
Severe injury	1	0	0	0	1	0	0	0	0	0	1
Minor injury	1	0	0	1	2	0	1	0	0	1	3
Third parties: [2]											
Fatal injury	0	0	1	2	3	0	0	3	0	3	6
Severe injury	0	0	1	1	2	1	0	3	2	6	8
Minor injury	3	0	1	4	8	0	0	2	1	3	11
Total injuries and non-injuries:											
Fatal injury	39	3	55	208	325	74	3	52	89	218	543
Severe injury	66	0	23	150	239	61	2	36	73	172	411
Minor injury	184	6	61	252	503	223	9	84	126	442	945
Uninjured	2,444	58	707	2,325	5,534	2,395	28	731	925	4,079	9,613
Total	2,753	67	846	2,935	6,601	2,753	42	903	1,213	4,911	11,512
II. Damage to material:											
Aircraft:											
Certificated	2,128	34	456	1,732	4,350	2,134	33	470	745	3,382	7,732
Uncertificated	30	4	20	56	110	12	0	13	19	44	154
Completely demolished	121	7	74	225	427	168	7	87	119	381	808
Complete overhaul	213	4	56	216	489	408	10	109	162	689	1,178
Major assembly repairs	1,241	23	250	1,019	2,533	1,234	13	238	372	1,857	4,390
Minor repairs	573	3	95	323	994	312	2	47	102	463	1,457
Not damaged	10	1	1	5	17	24	1	2	9	36	53
III. Nature of accident:											
Collisions with other aircraft	13	0	1	4	18	17	0	2	1	20	38
Collisions with objects other than aircraft	30	0	22	43	95	45	2	21	36	104	199
Spin or stall (engine failure)	6	0	1	8	15	4	0	1	4	9	24
Spin or stall (not engine failure)	45	0	23	83	151	40	1	12	48	101	252
Forced landing	240	6	76	269	591	273	7	105	128	513	1,104
Landing accident	1,234	10	202	820	2,266	919	9	178	234	1,340	3,606
Take-off accident	199	10	80	347	636	187	5	81	113	386	1,022
Taxiing accident	131	4	30	108	273	358	4	43	119	524	797
Fires in the air	3	2	6	1	12	4	0	3	1	8	20
Structural failure	34	3	12	29	78	28	2	7	8	45	123
Miscellaneous	132	2	12	26	172	91	1	8	20	120	292
Indeterminate and doubtful	1	0	0	4	5	2	0	0	4	6	11
Miscellaneous information											
Number of accidents involving:											
Fatal injuries	47	3	36	131	217	49	3	33	56	141	358
Severe injuries	50	0	16	77	143	47	2	17	42	108	251
Minor injuries	143	4	37	160	344	171	6	59	85	321	665
No injuries	1,828	30	376	1,374	3,608	1,701	20	352	533	2,606	6,214
Total accidents	2,068	37	465	1,742	4,312	1,968	31	461	716	3,176	7,488
Fires after accident [3]	11	2	18	28	59	10	1	7	6	24	83
Propeller accidents to persons	14	1	6	25	[4] 46	10	0	4	9	[5] 23	69
Glider accidents	7	0	2	7	[6] 16	5	3	0	5	[7] 13	29
Parachute jumps (voluntary)	3	0	2	0	[8] 5	0	0	0	0	0	5
Parachute jumps (involuntary)	17	3	2	4	[9] 26	27	1	3	0	[10] 31	57

[1] These statistics were prepared on the basis of N. A. C. A. definitions of I, Injury to personnel; II, Damage to material; and III, Nature of accident contained in Report No. 576 "Aircraft Accidents—Method of Analysis," 1941. The same definitions were applied when these data appeared in Volume 2, No. 12 of the Civil Aeronautics Journal.

[2] Third parties include spectators and any other persons who were not occupants of, or in any way connected with the operation of the aircraft.

[3] This figure covers the number of fires occurring after accidents. Results are included in the above regular aircraft accident statistics.

[4] Passengers, 1 fatal injury, 4 severe injuries, 4 minor injuries, and student, 1 severe injury, occurring in accidents directly connected with flight operations. The results are included in the above statistics. Also pilots, 4 severe injuries, 6 minor injuries; students, 1 severe injury, 2 minor injuries; ground crew, 7 severe injuries, 6 minor injuries; third parties, 3 fatal injuries, 2 severe injuries, 5 minor injuries. The results of these accidents are not included in the above statistics as they did not occur in connection with flights.

[5] Passengers, 4 severe injuries, 1 minor injury, and third party, 1 severe injury occurring in accidents directly connected with flight operations. The results are included in the above statistics. Also pilots, 4 severe injuries, 1 minor injury; student, 1 minor injury; ground crew, 1 fatal injury, 4 severe injuries, 2 minor injuries; third parties, 3 severe injuries, 1 minor injury. The results of these accidents are not included in the above statistics as they did not occur in connection with flights.

[6] Pilots, 1 fatal injury, 3 severe injuries, 3 minor injuries, 9 uninjured; student, 1 uninjured; passenger, 1 severe injury. Results are not included in the above statistics.

[7] Pilots, 4 severe injuries, 2 minor injuries, 7 uninjured; passengers, 2 uninjured; aircraft crew, 1 minor injury. Results are not included in the above statistics.

[8] Students, 2 fatal injuries, 1 minor injury; exhibition jumpers, 1 fatal injury, 1 severe injury. Results are not included in the above statistics.

[9] Pilots, 7 fatal injuries, 1 severe injury, 5 minor injuries. 6 uninjured; students, 1 severe injury, 2 minor injuries, 2 uninjured; passenger, 1 fatal injury; ground crew, 1 fatal injury. The results are included in the above statistics.

[10] Pilots, 2 severe injuries, 5 minor injuries, 12 uninjured; students, 1 fatal injury, 4 minor injuries, 6 uninjured; aircraft crew, 1 uninjured. The results are included in the above statistics.

DOMESTIC AIR CARRIER STATISTICS

Operations for August 1943

Operator	Routes operated	Revenue miles flown	Revenue passengers carried [1]	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (percent)
All American Aviation, Inc.	Pittsburgh-Jamestown, Huntington, Williamsport, Philadelphia, via Harrisburg.	90,289	0	0	19,809	3,049,571	0	.....
American Airlines, Inc.	Dallas-Los Angeles	651,348	15,246	11,958,935	206,438	204,710,952	12,457,745	96.00
	New York-Chicago	428,644	20,337	7,167,299	832,735	331,995,849	7,799,640	91.82
	Boston-New York	120,601	12,108	2,153,658	272,395	43,170,025	2,406,804	89.48
	Boston-Cleveland	19,911	2,306	334,355	37,559	7,049,443	409,029	81.74
	Cleveland-Nashville	61,588	5,284	1,126,670	112,959	32,898,939	1,289,057	87.40
	New York-Fort Worth	649,983	19,586	11,209,641	336,824	178,402,529	12,011,351	93.33
	Washington-Chicago	171,510	6,940	2,768,767	135,351	57,281,736	3,057,110	90.57
	Chicago-Fort Worth	116,144	4,642	2,068,302	92,395	59,563,534	2,290,329	90.31
	Buffalo-Toronto	4,712	854	65,360	4,057	308,332	95,304	68.58
	El Paso or Fort Worth-Mexico City	133,677	2,319	2,162,831	13,245	12,257,315	2,485,718	87.01
	Total	2,358,118	89,622	41,015,818	2,043,958	927,638,654	44,302,087	92.58
Braniff Airways, Inc.	Chicago-Dallas	220,345	6,970	3,929,455	102,121	67,118,591	4,065,650	96.65
	Denver-Brownsville	164,914	9,921	2,744,053	46,057	11,655,404	3,001,013	91.44
	Total	385,259	16,891	6,673,508	148,178	78,773,995	7,066,663	94.44
Chicago & Southern Air Lines, Inc.	Chicago-New Orleans	158,064	6,645	2,715,561	68,862	29,549,050	3,072,583	88.38
	Memphis-Houston	32,763	1,580	507,192	8,582	3,633,540	615,324	82.43
	Total	190,827	8,225	3,222,753	77,444	33,182,590	3,687,907	87.39
Continental Air Lines, Inc.	Denver-El Paso	96,170	3,030	847,023	6,707	2,102,529	936,077	90.49
	Pueblo-Tulsa	39,027	1,764	417,722	3,198	713,568	452,638	92.29
	Total	135,197	4,794	1,264,745	9,905	2,816,097	1,388,715	91.07
Delta Air Corporation	Charleston and Savannah-Fort Worth	169,551	7,626	3,063,687	29,173	14,169,318	3,541,990	86.50
	Atlanta-Cincinnati	47,168	2,744	936,750	22,666	7,350,400	985,033	95.10
	Total	216,719	10,370	4,000,437	51,839	21,519,718	4,527,023	88.37
Eastern Air Lines, Inc.	New York-San Antonio	426,563	14,150	8,282,549	125,487	62,872,644	8,614,854	96.14
	New York-Miami	521,544	13,921	7,806,217	160,896	121,970,280	8,792,506	88.78
	Chicago-Jacksonville	173,836	7,810	3,374,340	74,892	32,584,277	3,438,277	98.14
	Atlanta-Tampa	26,598	1,354	479,362	9,111	3,333,486	556,192	86.19
	Total	1,148,541	37,235	19,942,468	370,386	220,760,687	21,401,829	93.18
Inland Air Lines, Inc.	Denver-Great Falls	49,646	1,466	418,536	1,925	498,101	572,081	73.16
	Cheyenne-Huron	35,638	0	0	220	18,279	0	.....
	Total	85,284	1,466	418,536	2,145	516,380	572,081	73.16
Mid-Continent Airlines, Inc.	Minneapolis-Tulsa	88,163	3,004	815,711	19,796	4,574,008	1,142,263	71.41
	Minneapolis-Des Moines, St. Louis and Kansas City.	76,792	1,643	474,181	3,693	974,624	992,986	47.75
	Total	164,955	4,647	1,289,892	23,489	5,548,632	2,135,249	60.41
National Airlines, Inc.	Jacksonville-Miami	68,766	3,231	769,180	9,577	2,121,911	958,452	80.25
	Jacksonville-New Orleans	118,944	4,113	1,428,577	17,175	6,972,770	1,656,654	86.23
	Total	187,710	7,344	2,197,757	26,752	9,094,681	2,615,106	84.04
Northeast Airlines, Inc.	Boston-Presque Isle and Moncton	77,106	4,867	1,205,185	15,302	3,115,104	1,619,226	74.43
Northwest Airlines, Inc.	Chicago-Seattle	447,188	13,209	6,952,861	140,952	90,584,985	7,983,922	87.09
	Minneapolis-Duluth	7,722	0	0	395	56,485	0	.....
	Total	454,910	13,209	6,952,861	141,347	90,641,470	7,983,922	87.09
Pennsylvania-Central Airlines Corp.	Norfolk-Detroit	240,194	21,567	4,355,486	410,365	67,625,550	5,011,954	86.90
	Detroit-Milwaukee	15,394	1,753	280,470	22,483	4,001,274	323,274	86.76
	Pittsburgh-Buffalo	13,320	1,232	239,280	13,127	2,143,904	279,720	85.54
	Pittsburgh-Birmingham	39,804	1,926	656,540	6,171	2,690,213	832,306	78.88
	Total	308,712	26,478	5,531,776	452,146	76,460,941	6,447,254	85.80
Transcontinental & Western Air Inc.	New York-Los Angeles	975,892	26,069	16,294,352	587,052	360,124,037	17,546,108	92.87
	Dayton-Chicago	23,867	1,722	377,008	57,555	11,573,571	431,268	87.42
	Boulder City-San Francisco	31,718	907	356,284	10,081	5,051,840	545,997	65.25
	Kansas City-Pittsburgh via Chicago	276,565	8,386	4,616,533	199,678	103,779,915	4,694,291	96.21
	St. Louis-Detroit via Cincinnati and Dayton	69,970	5,242	1,213,898	69,591	14,292,493	1,403,341	86.50
	Washington-Dayton via Columbus	27,170	1,006	373,902	7,909	2,708,552	477,348	78.33
	Total	1,405,182	43,332	23,131,977	931,866	497,530,408	25,098,353	92.17
United Air Lines Transport Corp.	New York-San Francisco	1,372,152	25,936	23,022,446	777,736	626,872,169	24,111,355	95.48
	Salt Lake-Seattle	100,926	3,148	2,636,821	25,519	14,632,831	2,761,230	95.49
	Seattle-San Diego	389,108	20,845	7,462,530	125,983	52,201,560	7,874,842	94.76
	Seattle-Vancouver	15,872	2,278	294,953	5,353	681,925	330,195	89.33
	Toledo-Washington	25,216	602	450,462	9,657	3,804,858	517,370	87.07
	Total	1,903,274	52,809	33,867,212	944,248	698,193,343	35,594,992	95.15

[1] Where a company operates more than one route the passengers carried may be duplicated between routes.

Operations for August 1943—Continued

Operator	Routes operated	Revenue miles flown	Revenue passengers carried [1]	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (percent)
Western Air Lines, Inc	San Diego-Salt Lake City	147,428	6,834	2,842,368	73,053	36,141,134	3,072,401	92.51
	Salt Lake City-Great Falls	33,362	1,073	401,337	2,495	777,692	483,130	83.07
	Great Falls-Lethbridge	10,230	478	67,800	955	152,044	131,309	51.63
	Total	191,020	8,385	3,311,505	76,503	37,070,870	3,686,840	89.82
	Grand total	**9,303,103**	**329,671**	**151,026,430**	**5,335,317**	**2,705,913,141**	**168,127,247**	**91.61**

Passengers carried (total revenue and non-revenue) 338,059. Passenger-miles flown (total revenue, and non-revenue) 156,873,457.

[1] Where a company operates more than one route, the passengers carried may be duplicated between routes.

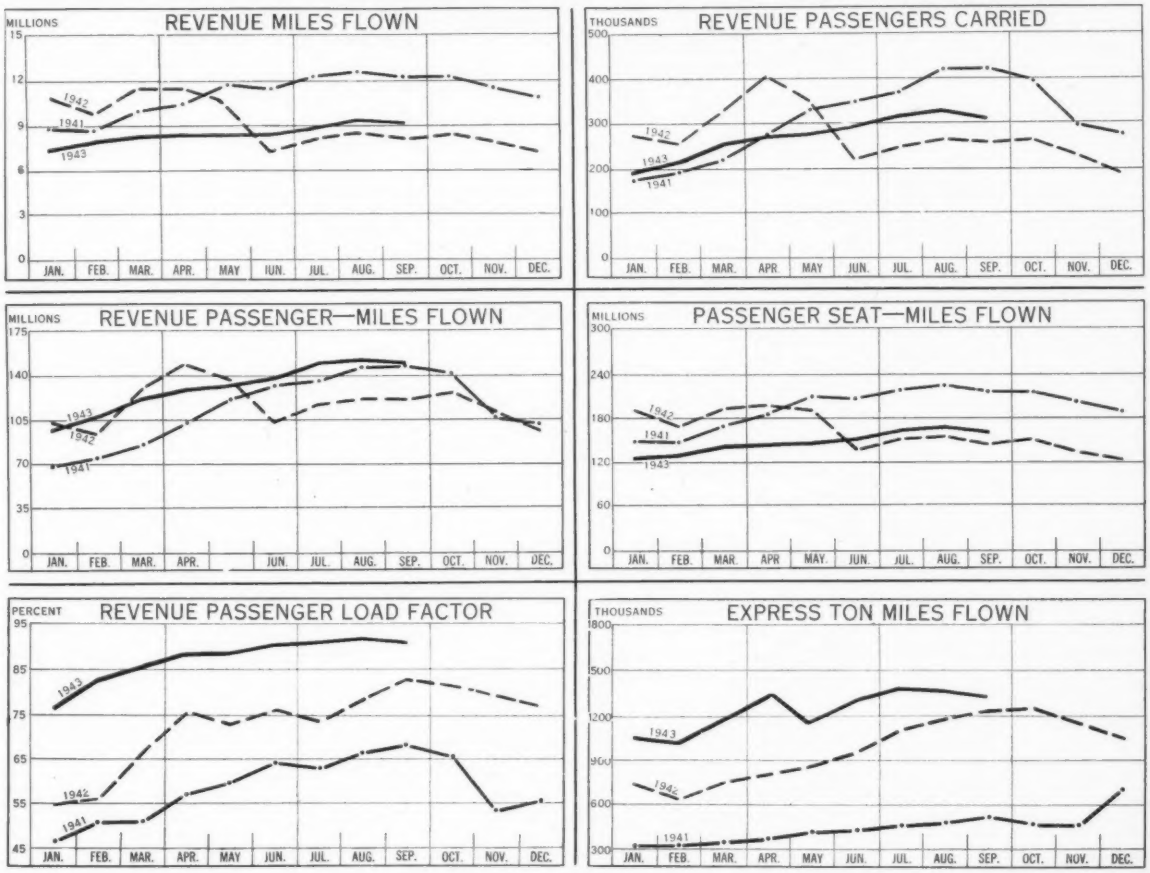
Operations for the First Eight Months of 1943 as Compared with the Same Period of 1942

Operator	Revenue miles flown, January–August		Revenue passengers carried, January–August		Revenue passenger miles flown, January–August		Express carried (pounds), January–August	
	1943	1942	1943	1942	1943	1942	1943	1942
All American Aviation, Inc	682,793	551,769	0	0	0	0	94,624	67,290
American Airlines, Inc	17,350,817	19,543,937	612,374	726,233	288,777,425	276,456,993	13,329,197	6,802,876
Braniff Airways, Inc	2,580,023	3,131,204	109,163	103,003	41,656,051	33,534,448	924,693	562,631
Catalina Air Transport	0	41,924	0	8,684	0	280,529	0	64,088
Chicago & Southern Air Lines, Inc	1,439,088	1,546,872	57,761	50,248	22,699,616	18,968,154	544,264	451,930
Continental Air Lines, Inc	1,013,510	1,144,550	34,541	23,849	9,800,811	6,284,001	78,775	51,291
Delta Air Corporation	1,396,073	1,729,582	70,180	74,092	26,045,176	21,835,438	378,139	179,983
Eastern Air Lines, Inc	8,765,689	11,970,276	267,582	359,691	141,737,599	155,085,231	2,872,652	2,519,549
Inland Air Lines, Inc	558,219	744,863	7,734	8,708	2,558,942	2,340,608	18,161	28,531
Mid-Continent Airlines, Inc	838,920	1,158,230	19,982	20,879	5,508,909	5,626,988	99,098	62,564
National Airlines, Inc	1,131,290	1,017,889	44,785	34,952	13,547,677	9,565,836	213,925	138,906
Northeast Airlines, Inc	440,396	579,977	22,523	19,114	5,572,188	3,717,337	60,455	56,124
Northwest Airlines, Inc	2,643,332	3,481,480	71,494	83,502	35,915,453	37,539,747	965,910	717,727
Pennsylvania-Central Airlines Corp	1,926,433	3,259,291	151,640	201,309	32,454,364	41,496,529	2,723,986	1,487,902
Transcontinental & Western Air, Inc	10,400,991	11,547,674	279,316	274,331	151,928,198	131,556,665	6,763,767	4,041,907
United Air Lines Transport Corporation	13,975,199	15,371,153	351,087	356,916	225,758,914	190,633,958	6,692,037	5,703,060
Western Air Lines, Inc	1,274,206	1,707,768	50,713	51,264	20,043,536	16,161,474	625,754	842,325
Total	66,416,979	78,528,439	2,150,875	2,396,835	1,024,005,259	951,063,927	36,385,437	23,778,684
Index (1942=100)	84.58	100.00	89.74	100.00	107.67	100.00	153.02	100.00

Operator	Express pound-miles flown, January–August		Passenger seat-miles flown, January–August		Revenue passenger load factor (percent), January–August	
	1943	1942	1943	1942	1943	1942
All American Aviation, Inc	12,824,741	7,064,945	0	0		
American Airlines, Inc	6,298,051,302	3,422,483,072	330,560,235	379,854,648	87.36	72.78
Braniff Airways, Inc	460,115,138	238,501,385	45,524,533	53,862,851	91.50	62.26
Catalina Air Transport	0	2,011,530	0	379,320		68.68
Chicago & Southern Air Lines, Inc	242,553,650	180,956,616	27,604,284	32,375,908	82.23	58.59
Continental Air Lines, Inc	27,403,699	15,298,316	11,333,723	11,759,232	86.47	53.44
Delta Air Corporation	145,968,312	66,488,541	29,252,643	31,382,453	89.04	69.58
Eastern Air Lines, Inc	1,785,584,254	1,551,410,059	163,587,683	231,159,076	86.64	67.09
Inland Air Lines, Inc	4,356,227	5,136,277	3,961,206	7,229,977	64.60	32.37
Mid-Continent Airlines, Inc	22,944,538	15,778,212	8,868,330	13,176,188	62.12	42.71
National Airlines, Inc	56,284,194	34,746,762	15,752,864	13,681,702	86.00	69.92
Northeast Airlines, Inc	12,832,033	14,103,763	9,240,563	11,215,325	60.30	33.15
Northwest Airlines, Inc	644,577,877	531,335,670	43,632,054	59,950,398	82.31	62.62
Pennsylvania-Central Airlines Corp	495,733,479	297,117,190	39,977,338	65,721,981	81.18	63.14
Transcontinental & Western Air, Inc	3,955,211,838	2,596,993,743	171,906,220	200,204,319	88.38	65.71
United Air Lines Transport Corporation	5,146,222,159	4,699,881,119	248,185,008	240,476,133	90.96	79.27
Western Air Lines, Inc	281,649,567	376,059,698	23,531,759	28,242,531	85.18	57.22
Total	19,592,313,008	14,055,366,898	1,172,918,443	1,380,672,042	87.30	68.88
Index (1942=100)	139.39	100.00	84.95	100.00	126.74	100.00

	January	February	March	April	May	June	July	August	Total
Passengers carried (total revenue and non-revenue)	208,380	233,049	265,175	280,913	282,103	297,760	320,096	338,059	2,225,535
Passenger miles flown (total revenue and non-revenue)	101,410,602	110,982,551	124,256,467	132,984,531	133,266,615	140,745,710	150,013,387	156,873,457	1,050,533,320

Comparative Charts of Domestic Operations for 1941, 1942, and the First 9 Months of 1943



New Engines, Props

The CAA has approved new models of already certificated engines and propellers. Data on these approvals follow:

Engines

The Aviation Corp., Lycoming O–435–B; 6 cyl. horizontal opposed air-cooled; 235 hp. at 3000 rpm. for all conditions with 100 octane fuel; weight (dry) 362 lbs. Provisions for installation of electric starter, generator, fuel, hydraulic and vacuum pumps. (Type Certificate No. 228, October 7, 1943.)

Air-cooled Motors, Franklin 6ACT–298–J5; 6 cyl. horizontal opposed air-cooled; 155 hp. at 2930 rpm. at full throttle or 130 hp. at 3200 rpm. at 23.3 in. Hg. manifold pressure for all conditions with 100 octane fuel; weight (dry) 308 lbs. Provisions for installation of electric starter, generator, fuel, hydraulic and vacuum pumps. (Type Certificate No. 225, October 28, 1943.)

Propellers

Hamilton Standard, 23E 3–blade propeller with 6519A or 6520A blades, steel hub and aluminum alloy blades, 13 ft. 1 in. to 11 ft. 1 in. diameter, hydraulically controllable (feathering), 1050 hp. 1430 rpm. (Type Certificate No. 603, October 15, 1943.)

Hamilton Standard, 33E 3–blade propeller with 6519A or 6520A blades, steel hub and aluminum alloy blades, 13 ft. 2 in. to 11 ft. 2 in. diameter, hydraulically controllable (feathering), 1050 hp. 1430 rpm. (Type Certificate No. 786, October 15, 1943.)

Reckless "Technique"

(Continued from page 154)

from which recovery was not effected. The right wing contacted the ground and the plane crashed.

Examination of the wreckage revealed no failure of any part of the aircraft prior to the accident and the manner in which the propeller was broken indicated that power was being developed at the time of impact. Pilot Harvey was flying from the front seat and the rear control stick had been removed. The weather was suitable for contact flight, with a west wind of 10 mph., and had no bearing on the accident. Smith, the passenger who survived, stated that Pilot Harvey had told him of his intention to land in the small field close to the farmhouse.

Inasmuch as Harvey was not a certificated pilot, the clearance officer at the airport erred in issuing clearance for the flight, and the owner of the aircraft likewise erred in allowing Harvey access to the plane.

It is apparent that Harvey was flying in a reckless manner for the entertainment of himself, his passenger, and his relatives on the ground and in so doing displayed little or no regard for the lives and safety of others.

Five Hours of Dual

(Continued from page 154)

the aircraft prior to impact. According to the physician to whom this pilot had applied for an examination, Freeman was physically unfit to be a pilot and he did not issue him a student pilot certificate. Freeman's instructor stated that while the boy was a very apt student, he had received no instruction in stalls or spins, had never flown a plane of such low horsepower and, since he had failed to pass his physical examination, had not been permitted to solo.

Freeman was employed as clearance officer and guard at the Elkin Airport. It is unfortunate that the airport management placed so youthful and irresponsible a person in a position of responsibility.

It is apparent that this accident was the result of foolhardiness on the part of a partially trained student pilot for attempting a solo flight in which he engaged in reckless maneuvers at a dangerously low altitude.

Orders

No. 2453 ..... *September 29, 1943*
Authorized inauguration of service by Transcontinental & Western Air, Inc., at the intermediate point Phoenix, Ariz., on route No. 2.

No. 2454 ..... *September 30, 1943*
Extended time for filing exceptions to the trial examiner's report and brief in support thereof re Horn's Flying School, Inc.

No. 2455 ..... *September 30, 1943*
Extended time for filing exceptions to the trial examiner's report and brief in support thereof re Aubrey Patterson, Jr.

No. 2456 ..... *October 1, 1943*
Extended time for filing exceptions to the trial examiner's report and brief in support thereof re Roy J. Garver, holder of private pilot certificate.

No. 2457 ..... *October 1, 1943*
Granted permission to Mid-Continent Airlines, Inc., to intervene re applications of certain airlines for certificates and amendment of certificates of public convenience and necessity.

No. 2458 ..... *October 1, 1943*
Dismissed petition of Mid-Continent Airlines, Inc., re compensation for the transportation of mail over routes Nos. 26 and 48.

No. 2459 ..... *October 1, 1943*
Revoked student pilot certificate held by James R. Jackson for certain violations of the Civil Air Regulations.

No. 2460 ..... *October 1, 1943*
Revoked student pilot certificate held by Aaron Cutlip for certain violations of the Civil Air Regulations.

No. 2461 ..... *October 2, 1943*
Authorized United Air Lines Transport Corporation to suspend service temporarily to and from Grand Island, Nebr. (route No. 1).

No. 2462 ..... *October 1, 1943*
Denied the State of Florida permission to intervene re applications of certain airlines for certificates and amendments of certificates of public convenience and necessity under section 401, and for approval of control under section 408 of the Civil Aeronautics Act of 1938.

No. 2463 ..... *October 1, 1943*
Denied the city of New Orleans permission to intervene re applications of certain airlines for certificates and amendments of certificates of public convenience and necessity under section 401, and for approval of control under section 408 of the Civil Aeronautics Act of 1938.

No. 2464 ..... *October 6, 1943*
Severed proceeding of Braniff Airways, Inc., Delta Air Corporation, and National Airlines, Inc., from the proceedings of Chicago and Southern Air Lines, Inc., and Pennsylvania-Central Airlines Corporation re rates, fares, and charges for the transportation of passengers.

No. 2465 ..... *October 8, 1943*
Denied request of John H. Wagner for waiver of section 20.149 of the Civil Air Regulations.

No. 2466 ..... *October 8, 1943*
Temporarily suspended private pilot certificate held by Robert R. Currie for certain violations of the Civil Air Regulations.

No. 2467 ..... *October 8, 1943*
Temporarily suspended student pilot certificate held by Harry W. Johnson for certain violations of the Civil Air Regulations.

No. 2468 ..... *October 8, 1943*
Revoked student pilot certificate held by Joseph G. Nelson for certain violations of the Civil Air Regulations.

No. 2469 ..... *October 7, 1943*
Further amended certificate of public convenience and necessity issued to Transcontinental & Western Air, Inc., so as to include Columbia, Mo., as an intermediate point between the intermediate points St. Louis, Mo., and Kansas City, Mo. (route No. 2). (Opinion and order.)

No. 2470 ..... *October 11, 1943*
Amended Board Order No. 609–676 so as to revoke the two student pilot certificates held by Raymond W. Flickinger.

No. 2471 ..... *October 11, 1943*
Temporarily suspended mechanic certificate held by Charles Toth for certain violations of the Civil Air Regulations.

No 2472 ..... *October 12, 1943*
Denied petition of United Air Lines Transport Corporation for reargument and reconsideration of orders Nos. 2268 and 2409.

No. 2473 ..... *October 13, 1943*
Withheld from publication exhibits and testimony re applications of certain airlines for certificates and for amendments of certificates of public convenience and necessity under section 401, and for approval of control under section 408 of the Civil Aeronautics Act of 1938.

No. 2474 ..... *October 13, 1943*
Granted permission to Pennsylvania-Central Airlines Corporation to intervene re application of American Airlines, Inc., for amendment of certificate of public convenience and necessity under section 401 of the Civil Aeronautics Act of 1938.

No. 2475 ..... *October 15, 1943*
Revoked commercial pilot certificate held by Charles E. Higgins for certain violations of the Civil Air Regulations.

No. 2476 ..... *October 15, 1943*
Revoked private pilot certificate held by George A. Graham, Jr., for violation of the Civil Air Regulations.

No. 2477 ..... *October 15, 1943*
Revoked student pilot certificate held by James M. Jones for certain violations of the Civil Air Regulations.

No. 2478 ..... *October 18, 1943*
Extended time in which Charles F. Kimbley may file an answer to the amended complaint.

No. 2479 ..... *October 18, 1943*
Consolidated Dockets Nos. SR–600, SR–601, SR–602 and SR–603 for the purpose of decision.

No. 2480 ..... *October 20, 1943*
Severed a section of the application of American Airlines, Inc., in Docket No. 932 entitled "VI New Route A" and assigned it Docket No. 1119; consolidated Dockets Nos. 1119, 303, 460, 427, 429, and 591 with Dockets Nos. 988 and 1080, re applications of Mid-Continent Airlines, Inc., and United Air Lines Transport Corporation for certificates authorizing air transportation between certain points; assigned proceeding for public hearing; denied request of Eastern Air Lines, Inc., to consolidate and amend Dockets 1067 and 491; denied request of Pennsylvania-Central Airlines Corporation that its proposed nonstop operation between Detroit, Mich., and Chicago, Ill., on route No. 32 be consolidated.

No. 2481 ..... *October 20, 1943*
Granted permission to Braniff Airways, Inc., to intervene re applications of certain airlines for certificates and amendments of existing certificates of public convenience and necessity under section 401 of the Civil Aeronautics Act of 1938.

No. 2482 ..... *October 20, 1943*
Granted the State of Indiana permission to intervene re applications of certain airlines for certificates and amendments of existing certificates of public convenience and necessity under section 401 of the Civil Aeronautics Act of 1938.

No. 2483 ..... *October 25, 1943*
Temporarily suspended student pilot certificate held by Ford W. Ridenbaugh for certain violations of the Civil Air Regulations.

No. 2484 ..... *October 25, 1943*
Revoked flight instructor rating and suspended commercial pilot certificate held by James M. Dalby for certain violations of the Civil Air Regulations. (Opinion and order.)

No. 2485 ..... *October 22, 1943*
Revoked commercial pilot certificate held by John R. Stevens for certain violations of the Civil Air Regulations. (Opinion and order.)

No. 2486 ..... *October 26, 1943*
Granted Delta Air Corporation permission to use Alexandria Army Air Base

(See "Orders," page 162)

STATUS OF AIR REGULATIONS

Regulations as of November 1, 1943

HOW TO OBTAIN PARTS, AMENDMENTS, AND MANUALS

THOSE PARTS AND MANUALS ON WHICH A PRICE IS LISTED IN THE TABULATION WHICH FOLLOWS ARE ON SALE AT THE GOVERNMENT PRINTING OFFICE (SHOWN AS GPO IN TABLE), AND ARE NOT AVAILABLE FOR FREE DISTRIBUTION FROM THE CAA.

The Government Printing Office is the official sales agency for all government publications and is separate and distinct from the CAA and the Department of Commerce. The rules of the Superintendent of Documents require that *remittances be made in advance* of shipment of publications, either by coupons, sold in sets of 20 for $1 and good until used, or by check or money order payable to the *Superintendent of Documents, Government Printing Office.* Currency is sent at sender's risk. Postage stamps, foreign money, and smooth coins are not acceptable. A discount of 25 percent is allowable to book dealers and quantity purchasers of 100 or more publications, on condition that the purchasers will adhere to the public sales price set by the Superintendent of Documents and that publications shall not be overprinted with any advertising matter.

Eventually, all Parts and Manuals will be placed on sale; meanwhile, those not yet on sale (carrying remark, "Order from CAA only") may be obtained without charge from the CAA upon demonstration of valid interest on the applicant's part.

The following tabulation carries in the right-hand column the numbers of all effective amendments to each Part and Manual issued subsequent to its publication. Parts and Manuals obtained from the CAA will include all effective amendments, but amendments for Parts and Manuals purchased from GPO must be requested separately from the CAA. When requesting amendments from the CAA, please be sure to state Part numbers for which they are desired.

ALL AMENDMENTS TO THE REGULATIONS, AND NOTICE OF NEW PARTS AND MANUALS ARE PRINTED IN THE CIVIL AERONAUTICS JOURNAL, AS RELEASED.

Bound volumes of the complete Civil Air Regulations are no longer available. Parts and amendments are punched for filing in standard three-ring binders.

For your guidance we have listed the Parts and Manuals applicable to the various airmen certificates issued.

Pilots:
Parts 01, 20, 60, 501, 503, and Manual 60.
Airline Transport Pilots:
Parts 01, 04, 21, 27, 40, 60, 61, 98, 501, 503, and Manuals 04 and 60.
Lighter-Than-Air Pilots:
Parts 01, 22, 60, 501, 503, and Manual 60.
Aircraft Mechanics:
Parts 01, 04, 15, 18, 24, 501, 503, section 60.32, and Manuals 04, 15, and 18.
Aircraft Engine Mechanics:
Parts 01, 04, 13, 14, 18, 24, 501, 503, and Manuals 04, 14, and 18.
Parachute Technicians:
Parts 15, 25, 54, 60, and Release 144.
Air-Traffic Control-Tower Operators:
Parts 26, 60, and Manual 60.
Aircraft Dispatchers:
Parts 27, 40, 60, 61, and Manual 60.
Ground Instructors (rating in Civil Air Regulations):
Parts 01, 20, 51, 60, 501, 503, and Manual 60.

PARTS CANCELED AND UNASSIGNED

Canceled Parts 00 and 03 now incorporated in Part 501; canceled Part 23 now incorporated in Part 51. Parts 90–96, inclusive, canceled. All other Part numbers not shown are unassigned.

Civil Air Regulations

Aircraft

Part No.	Title	Date	Remarks	Price	Effective Amendments
01	Airworthiness Certificates	10-15-42	On sale at GPO	$0.05	
02	Type and Production Certificates	3-1-41	On sale at GPO	.05	
04	Airplane Airworthiness	8-15-42	On sale at GPO	.15	04-1, Reg. Ser. 228.
13	Aircraft Engine Airworthiness	8-1-41	On sale at GPO	.05	
14	Aircraft Propeller Airworthiness	7-15-42	On sale at GPO	.05	
15	Aircraft Equipment Airworthiness	11-15-40	In stock; order from CAA only		15-1, 15-2.
16	Aircraft Radio Equipment Airworthiness	2-13-41	On sale at GPO	.05	
18	Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.	9-1-42	On sale at GPO	.05	

Airmen

20	Pilot Certificates	9-1-42	On sale at GPO	$0.10	20-1, thru 20-5, Reg. Ser. 242, 247.
21	Airline Transport Pilot Rating	10-1-42	On sale at GPO	.05	21-1, thru 21-3, Reg. Ser. 278
22	Lighter-Than-Air Pilot Certificates	10-15-42	On sale at GPO	.05	Reg. Ser. 247.
24	Mechanic Certificates	7-1-43	On sale at GPO	.05	
25	Parachute Technician Certificates	1-21-43	In stock; order from CAA only		25-1.
26	Air-Traffic Control-Tower Operator Certificates.	7-1-42	On sale at GPO	.05	26-1, 26-2.
27	Aircraft Dispatcher Certificates	9-1-42	On sale at GPO	.05	27-1.
29	Physical Standards for Airmen	6-1-42	On sale at GPO	.05	

Air Carriers

40	Air Carrier Operating Certification	11-1-42	On sale at GPO	$0.10	40-1, 40-2.

Air Agencies

50	Flying School Rating	11-1-40	On sale at GPO	$0.05	87, 113, 50-3, Reg. No. 216.[1]
51	Ground Instructor Rating	7-1-42	On sale at GPO	.05	
52	Repair Station Rating	10-1-42	On sale at GPO	.05	
53	Mechanic School Rating	8-1-42	On sale at GPO	.05	
54	Parachute Loft Certificates and Ratings	1-21-43	In stock; order from CAA only		

Air Navigation

60	Air-Traffic Rules	7-1-43	On sale at GPO	$0.10	60-1 thru 60-3.
61	Scheduled Air-Carrier Rules	10-15-42	Out of stock	.10	61-1 thru 61-12.
66	Foreign Air-Carrier Regulations	1-15-42	On sale at GPO	.05	

Miscellaneous

97	Rules of Practice Governing Suspension and Revocation Proceedings.	10-1-42	In stock; order from CAA only		
98	Definitions	10-15-42	On sale at GPO	$0.05	
99	Mode of Citation of Regulations	11-15-40	In stock; order from CAA only		

[1] No copies available. (Waiver of requirements.) Consult CAA inspector for specific provisions of this amendment.

Regulations of the Administrator

Part No.	Title	Date	Remarks	Price	Effective Amendments
501	Aircraft Registration Certificates	3-31-43	In stock; order from CAA only		
503	Recordation of Aircraft Ownership	3-31-43	In stock; order from CAA only		
510	General Regulations, Washington National Airport.	9-26-41	In stock; order from CAA only		
511	General Aeronautical Rules for the Washington National Airport.	9-26-41	In stock; order from CAA only		
525	Notice of Construction or Alteration of Structures on or Near Civil Airways.	7-23-43	In stock; order from CAA only		
531	Seizure of Aircraft	12-8-41	In stock; order from CAA only		
532	Reproduction and Dissemination of Current Examination Materials.	1-15-43	In stock; order from CAA only		
600	Designation of Civil Airways	3-1-42	Not published [1]		1 through 33.[1]
601	Designation of Airway Traffic Control Areas, etc.	1-15-42	Not published [1]		1 through 50.[1]

Civil Aeronautics Manuals

04	Airplane Airworthiness	2-1-41	On sale at GPO	$0.50	Release 50, 97,[2] 105,[2] 117,[2] 140.[2]
14	Aircraft Propeller Airworthiness	12-1-38	In stock; order from CAA only		
15	Aircraft Equipment Airworthiness	7-1-38	On sale at GPO	.10	
16	Aircraft Radio Equipment Airworthiness	2-13-41	In stock; order from CAA only		Release 62.
18	Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.	6-1-41	On sale at GPO	.50	
50	Flying School Rating	12-40	In stock; order from CAA only		Release 77, 111.
52	Repair Station Rating	2-41	In stock; order from CAA only		
53	Mechanic School Rating	5-40	In stock; order from CAA only		
60	Air Traffic Rules	8-1-43	On sale at GPO	.15	

[1] *See Air Navigation Radio Aids.*
[2] *Only pertinent pages furnished.*

Orders

(Continued from page 160)

so as to serve Alexandria, La. (Effective November 15, 1943.)

No. 2487 ---- *October 26, 1943*

Granted Delta Air Corporation permission to use Harding Field so as to serve Baton Rouge, La. (Effective November 15, 1943.)

No. 2488 ---- *October 22, 1943*

Temporarily suspended student pilot certificate held by Edwin S. Alexander for certain violations of the Civil Air Regulations. (Opinion and order.)

No. 2489 ---- *October 27, 1943*

Granted American Export Airlines, Inc., permission to serve Bathurst, Gambia, Port of Spain, Trinidad, and Hamilton, Bermuda through the use of commercial seaplane at these locations.

No. 2490 ---- *October 29, 1943*

Limited airlines transport pilot certificate held by Leland H. Cameron for certain violations of the Civil Air Regulations.

Regulations

No. 287 --- *Effective September 28, 1943*

Regulations Serial Nos. 260, 277, and 281, relating to deviations from the left-hand circle rule, adopted by the Civil Aeronautics Board on February 17, June 14, and August 2, 1943, respectively, are hereby revoked.

Note.—Deviations from the left-hand circle rule formerly authorized by the revoked regulations have been authorized by the Administrator in accordance with Amendment No. 60-3 of the Civil Air Regulations, adopted August 18, 1943.

No. 288 --- *Effective November 15, 1943*

Amends Section 202.3 of the Economic Regulations to cover the issuance of a revised "Schedule Governing Preservation of Accounts, Records, and Memoranda of Air Carriers," dated November 15, 1943. The revised schedule supersedes that dated March 1, 1942, and issued at the time section 202.3 was promulgated through regulation No. 204.

"Homing" Service

(Continued from page 147)

Location	Signal	Frequency
Mason City, Iowa	NM	254
Morse, Ill	MQ	382
Mt. Laguna, Calif	TN	254
Pellston, Mich	PJ	206
Philip, S. Dak	IL	206
Ponca City, Okla	PC	382
St. Ignace, Mich	EG	209
Santa Barbara, Calif	OY	320
Santa Fe, N. Mex	SJ	206
Socorro, N. Mex	OS	206
Spearfish, S. Dak	SE	206
Sulphur Springs, Tex	ZO	224
Sunbury, Pa	SV	353
Tarkio, Mo	TK	281
Tuscaloosa, Ala	TU	206
Vero Beach, Fla	VB	230
Vicksburg, Miss	VS	382
W. Palm Beach, Fla	WZ	236

At the following locations voice and teletype transmission has been in effect but soon the "homing" feature will be added. Signals which will be transmitted are also given.

Location	Signa
Anderson, S. C	AS
Anton Chico, N. Mex	AC
Archbold, Ohio	YV
Ardmore, Okla	AT
Atlantic, Iowa	IZ
Big Springs, Nebr	BG
Blue Canyon, Calif	BC
Brookville, Pa	BR
Cambridge, Ohio	CM
Cassoday, Kans	CY
Dunkirk, N. Y	DK
Easton, Wash	TP
Frontenac, Minn	FE
Gainesville, Tex	GE
Gooding, Idaho	GG
Harpersville, Tex	HV
Hayesville, Ohio	HA
Kelso, Wash	HP
Knoxville, Mo	KL
LaGrande, Oreg	IU
Livermore, Calif	LM
McCool, Ind	ML
Milroy, Ind	MV
Montezuma, Iowa	MZ
New Florence, Mo	ST
Oceanside, Calif	OC
Ontario, Oreg	OO
Overton, Nebr	OV
Perry, Ohio	PE
Port Clinton, Ohio	PY
Stevenson, Wash	LZ
Warsaw, Ky	WR

Medical Data

(Continued from page 147)

for this type of physical deficiency. In some cases, they may be certificated to fly only certain types of planes, or fly under certain specified conditions.

"The purely medical deficiency, such as heart disease, tuberculosis, and diabetes, must be decided on the basis of medical evidence of cure.

"Our present policy recognizes that on the average, the physically handicapped can learn to fly as readily as the normal individual. The important fact is whether his deficiency interferes with safe piloting, and what extra hazard to other persons he may be because of it. In general, the applicant is permitted to proceed under a carefully supervised and graduated course of instruction.

"The examiner is an important link in the pilot certification procedure. We must have an accurate, scientific, and unbiased report on the applicant. Uniformity of findings is essential. The untruthful applicant and the indifferent examiner are both dangerous. Fortunately, they soon reveal themselves.

"There are accident-prone pilots just as there are accident-prone truck drivers, but the pilot is more dangerous to himself and others. How to predetermine these individuals and if possible, restrict them, is our biggest task. Some might be made safe through specialized instruction and others might be restricted to particular types of flying. More practical application of theoretical knowledge is probably a partial answer."

Asks Route to Dublin

Application for air service from Washington, D. C., to Dublin, Ireland, has been made to the Board by Edward G. Bern of Great Neck, Long Island. Intermediate points requested by the applicant are Baltimore, New York, and Boston.